EPA Update

[add authors' pictures]

TRANSITION AT EPA

Maybe the Greek philosopher Heraclitus of Ephesus said it best when he stated that the only thing that is constant is change. At the time of the drafting of this article we are only a few weeks out from election day and all indications are that there are significant changes on the horizon for EPA. In early December, President-elect Trump announced his pick of Scott Pruitt, the Oklahoma attorney general, to run the EPA. The Transition Team will be landing in Headquarters and possibly by the time of the publication of this article, the new administration will be starting to usher in slate of appointees with starkly different priorities than the prior administration.

SUPERFUND UPDATE

CERCLA Financial Responsibility - Hardrock Mining

Section 108(b) of CERCLA gives the EPA the authority to require that classes of facilities establish and maintain evidence of financial responsibility. This financial responsibility is used to demonstrate the owner or operator's ability to cover the costs associated with releases or threatened releases of hazardous substances from their facilities. In July 2009, the EPA identified certain hardrock mining and mineral processing facilities as its first priority for the development of financial responsibility requirements. The EPA's research indicated that this industry typically operates on a large scale, and, in some situations, subsequent exposure of humans, organisms, and ecosystems to hazardous substances occurs on a similarly large scale. Hardrock mining facilities generate an enormous volume of waste, which may increase the risk of hazardous substance release.[1] While environmentalists have long argued that the financial assurance required for mining operations was inadequate, industry and trade groups have questioned the need for new bonding requirements.[2]

On December 1, 2016, the EPA proposed financial responsibility requirements for the industry. A public comment period will begin after publication in the *Federal Register*. For a summary of the proposed rule and additional resources, see https://www.epa.gov/superfund/proposed-rule-financial-responsibility-requirements-under-cercla-section-108b-classes.

Additional Industries

In December 2016, the EPA also published a notice describing its plan to consider financial requirements under CERCLA for the electric power generation, transmission and distribution industry; the chemical manufacturing industry; and the petroleum and coal products manufacturing industry. The notice explains that EPA intends to move forward with the regulatory process, which will determine, what, if any, financial responsibility requirements are necessary for these industries. For more on this, see https://www.epa.gov/superfund/superfund-financial-responsibility.

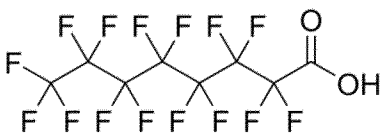
NPL Listings & Proposals

In September, the EPA added 10 and proposed to add eight hazardous waste sites to the NPL. These sites have contamination from a variety of sources, including manufacturing, mining, battery recycling and dry cleaning.[3] In our area, the EPA added a portion of **Wappinger Creek in Dutchess County, New York** to the list. Sediment within the two-mile-long tidal portion of the creek, which is downstream from an industrial park, is contaminated with mercury, polycyclic aromatic hydrocarbons and other pollutants. For nearly 200 years, an industrial park along the creek was used for hat manufacturing, textile dyeing, manufactured gas plant operations, metal plating, ammunition production, chemical manufacturing and other activities. These activities contaminated the creek and surrounding communities. There have been several investigations and cleanups within the industrial park, however, contamination adjacent to and downstream of the industrial park still presents a risk. The portion of the Creek that has been placed on NPL includes locations in the Village of Wappingers Falls and the Towns of Poughkeepsie and Wappinger. [4]

Among the sites proposed for addition to the NPL, was the **Saint-Gobain Performance Plastics Site in Village of Hoosick Falls, New York.** Groundwater at the facility is contaminated with Perfluorooctanoic Acid (PFOA) and Trichloroethylene. Groundwater supplying the village's public water supply wells is contaminated with PFOA, as well as Vinyl Chloride and 1,2-Dichloroethane (1,2-DCA). The Vinyl Chloride and 1,2-DCA are both below EPA drinking water standards. The Village of Hoosick Falls has added carbon filtration to its public water supply, thereby providing clean water to local residents.[5]

The facility was built in 1961, and had been used to manufacture circuit board laminates, polytetrafluoroethylene (PTFE)-coated fiberglass and other PTFE products. In 1999, Saint-Gobain Performance Plastics purchased the facility and began operations there, using PFOA in its manufacturing process. PFOA belongs to a group of chemicals used to make household and commercial products that resist heat and chemical reactions and repel oil, stains, grease and water. PFOA does not break down easily and therefore is very persistent in the environment. In 2006, the EPA reached a nationwide agreement with eight manufacturers to phase out the production and use of PFOA. These manufacturers stopped using PFOA in 2015.[6]

In January 2016, the New York State Department of Environmental Conservation (NYSDEC) added the site to the state's Superfund list and nominated it for inclusion on the NPL. In April 2016, the EPA installed groundwater monitoring wells near the facility and in May 2016, conducted groundwater sampling at and around the facility. In mid-May, the EPA conducted drinking water sampling at wells used by the Village of Hoosick Falls.[7] For Federal Register notices and supporting documents for the final and proposed sites, see: http://www.epa.gov/superfund/current-npl-updates-new-proposed-npl-sites-and-new-npl-sites.



Jackson Steel off the NPL

In August, the EPA proposed deleting the **Jackson Steel Superfund site in Mineola, N.Y.** from the NPL. A cleanup of contaminated soil and groundwater contaminated with VOCs, pesticides and metals has been completed and the site no longer poses a threat to public health and the environment.[8] As no viable responsible parties have been identified for this site, the cleanup was funded by the EPA Superfund program with taxpayer dollars at a cost of $8.3 Million.

The 1.5-acre Jackson Steel Superfund site includes a one-story 43,000-square-foot building formerly used as a metals manufacturing facility and an approximately 10,000-square foot paved parking area. The facility operated from 1970 through 1991. As part of its operation, the company used solvents as degreasers and improperly disposed of the solvents on-site. The EPA listed the site on the NPL in February 2000. The EPA installed a system to remove volatile organic compounds from the soil and treated the contaminated groundwater. Groundwater standards have been met as a result of the treatment. The EPA also excavated and disposed of contaminated soil and materials in dry wells and sumps, and the building floor was decontaminated.[9] As a result of the detection of vapor intrusion at an adjacent daycare center and billiards club, the EPA installed vapor mitigation systems in 2002. The systems will continue to operate and the EPA will continue to conduct periodic reviews to ensure that the cleanup continues to be protective.[10]

Super Fun [sic] Cleanups & Reviews

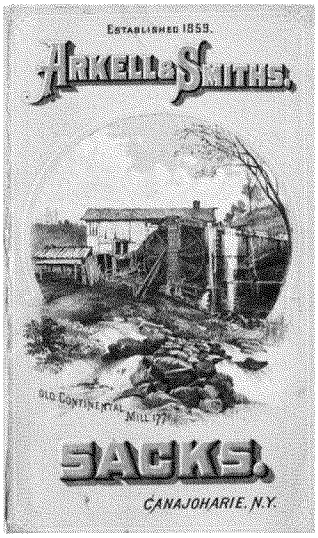
Hudson River Five Year Review

After six seasons of in-river work, dredging to remove PCBs from a 40-mile stretch of the upper Hudson River between Troy and Fort Edward, New York was completed in the fall of 2015. The EPA has begun its **second five-year review** of the Hudson River PCBs Superfund site. The purpose of this review is to ensure that the cleanup is working as intended and will be protective of public health and the environment. The review will include an evaluation of all available data for the project, including fish, water and sediment data, as well as the new data to be collected this spring and summer.[11] The first five-year review for the site was completed in 2012.

As part of the EPA's commitment to conduct the five-year review in a transparent manner, the EPA held several public workshops with the Hudson River PCBs Site Community Advisory Group (CAG) to discuss the review. Following an evaluation of data and discussions with the federal Hudson River Natural Resources Trustees, New York State and the CAG, the EPA expects to issue the second five-year review report in late 2016 or early 2017 and will make it available for public comment. The second five-year review should be completed by April 2017.[12]

Kentucky Avenue Wellfield Site

In July, the EPA proposed a plan to address contaminated soil and sediment at **Koppers Pond, a part of the Kentucky Avenue Wellfield Superfund site** in the Village of Horseheads in Chemung County N.Y. The pond is contaminated with PCBs and heavy metals. The Kentucky Avenue Wellfield site was added to the federal Superfund list in 1983 following detection of trichloroethylene (TCE) in a public water supply. Since the 1980's, several cleanup actions were taken at the site, including the closing of the wellfield and connecting residents on private wells to the public water supply. In addition, TCE-contaminated soil was removed, a groundwater treatment system was installed and PCB-contaminated sediment in the ditch that connects to



Koppers Pond was removed. The proposed plan would require an underwater cap on the pond's bottom and continued restrictions on how the area can be used in the future to ensure the integrity of the cap. Long-term monitoring of the sediment and fish will be conducted and the fish advisories will be updated as needed.[13]

Eighteen Mile Creek, Part 2

In late August, the EPA proposed a plan to address contamination in the Creek Corridor portion of the **Eighteen Mile Creek Superfund Site, in Lockport, N.Y.** The Creek Corridor is approximately one mile in length and extends from the Erie Canal to Harwood Street in the City of Lockport. The Creek and several adjacent properties are contaminated with PCBs and other contaminants, including lead. The plan, which is the second phase of cleanup at this site, calls for the complete removal of contaminated sediment in the Creek Corridor. The plan also proposes a combination of excavation and off of the site disposal, capping, and institutional controls to address contaminated soil at Upson Park, the former Flintkote Plant, White Transportation, and former United Paperboard Company properties. During the removal of contaminated sediment, the dilapidated Clinton and William Street dams would be removed. This portion of the site cleanup may cost an estimated $23 million.[14]

Eighteen Mile Creek has a long history of industrial use dating back to the 1800s when it was used as a source of hydro-power. The site was placed on the NPL in March 2012. Investigations at the site show that sediment and soil in and around the Creek and nearby properties are contaminated with variety of pollutants, including PCBs and lead. In June 2013, EPA outlined a three-phase approach to site cleanup. The initial phase, which involved demolition at the residential and Flintkote building properties, was completed in 2016. The second phase of the cleanup, which is discussed above, involves the Creek Corridor. The third phase of cleanup, which is still in the investigation stage, will address groundwater and contaminated sediment in the Creek from Lockport to its discharge in Lake Ontario.[15]

Arkell and Smiths Asbestos Site

The EPA's removal program has been working to stop the potential spread of asbestos at the former Arkell and Smiths Sack Co. facility in Canajoharie, N.Y. The original factory was built in the 1860s and was once home to the manufacturer of the first flat-bottom paper sack. The property was sold in 2007 and fell into disrepair. The site is 2.6 acres and contained seven interconnected collapsing buildings. In February of 2016, the EPA took building and debris samples and determined that the asbestos from badly deteriorating structures on the site has the potential to impact the surrounding area. Several homes are located within 30 feet of the site. In September 2016, the EPA began demolition activities on structures that were observed to be partially collapsed and in jeopardy of additional collapses that would potentially release asbestos fibers. In October and November, portions of several buildings were demolished. Approximately 1800 tons of asbestos-containing debris was sent to approved landfills and about 55 tons of scrap metal was sent for recycling. The EPA plans to continue demolition and off-Site disposal activities at the site in spring 2017.[16] For more information about asbestos, please visit: http://www.epa.gov/asbestos.

Soil Cleanup at Li Tungsten

In October, the EPA finalized its plan to conduct additional excavation of contaminated soil in some areas of the former **Li Tungsten Property in Glen Cove, N.Y.,** an inactive tungsten processing facility. Soil at the site is contaminated with arsenic, lead and heavy metals. The cleanup plan includes removing and disposing of approximately 8,500 cubic yards of contaminated soil from portions of the site and backfilling the area with clean soil or provide covering. The final plan requires continued restrictions on how the site can be used in the future to ensure that activities at the site do not interfere with the cleanup.[17] The cleanup plan builds on previous work undertaken at the Site. The EPA previously excavated about 120,000 cubic yards of contaminated waste, some of it radioactive, from the adjacent cove. The EPA also removed the contents of approximately 270 chemical storage tanks, demolished two unstable buildings from the property.[18] Liable parties have funded the vast majority of the cleanups that have occurred to date at this site, and the current $3.2 million remedial action will be funded through prior settlements with liable parties and performed by the EPA. The cleanup plan, including the EPA's response to public comments, is available at: www.epa.gov/superfund/li-tungsten.

Agreement with Oxy on Passaic

In early October, the EPA announced an agreement with Occidental Chemical Corporation (Occidental), one of more than 100 parties identified as potentially responsible for contamination of the lower Passaic River, to perform engineering and design work needed to begin the cleanup of the lower 8.3 miles of the River. This work, valued at about $165 million, includes sampling, evaluating technologies, and undertaking a remedial design effort. Occidental will also pay for the EPA's oversight costs. The EPA will pursue additional agreements with the other responsible parties.[19]

In March 2016, the EPA issued its final plan to remove 3.5 million cubic yards of toxic sediment from the lower 8.3 miles of the Passaic, followed by capping that entire stretch of river bottom. The sediment in the Passaic River is severely contaminated with dioxin, PCBs, heavy metals, pesticides and other contaminants. The lower Passaic is the most heavily contaminated section of the river. The cleanup is estimated to cost $1.38 billion. Design work is expected to take four years to complete. The dredging, dewatering and disposal of dredged materials, and the capping and related construction work will follow, and is expected to take an additional six years to complete.[20] For more about this very complex site, visit the Passaic River web site: http://www.ourpassaic.org. A list of parties that were notified by EPA of their potential liability for costs associated with the lower Passaic is available at https://semspub.epa.gov/src/document/02/457510

Improving Groundwater Cleanup in Vestal

In October, the EPA finalized its plan to thermally treat, move and capture VOCs that are contaminating soil that is a source of groundwater contamination at the Vestal Water Supply Well 1-1 Superfund site in Vestal, Broome County, N.Y. In addition, some of the soil is contaminated with PCBs, which will be excavated and removed from the site. The cost of this cleanup is approximately $14 million.[21] The final EPA plan builds on decades of work by the EPA and the NYSDEC to address contamination at the site.[22] To view the final cleanup plan, visit: www.epa.gov/superfund/vestal-well-1-1.

RCRA UPDATE

Happy 40th RCRA!

In October, RCRA marked its 40th anniversary! Over the past four decades, the RCRA program has successfully conquered diverse environmental challenges, including:

- Managing 2.5 billion tons of solid, industrial & hazardous waste, & providing opportunities to reduce or avoid greenhouse gas emissions through material & land management practices.
- Cleaning up & restoring 18 million acres of contaminated lands, nearly equal to the size of South Carolina.
- Raising the national recycling rate from 7 to 34 %.

In addition, the RCRA program is always looking to find ways to reduce waste at its sources. Sustainable materials management is a systemic approach to using and reusing materials more productively over their entire life cycles that has been stressed in recent years. By looking at a product's entire lifecycle we can find new opportunities to reduce environmental impacts, conserve resources, and reduce costs.

For more on RCRA, including a very informative timeline, visit the special anniversary site at www.epa.gov/rcra/resource-conservation-and-recovery-act-40th-anniversary. For an update on the EPA's E-manifest (tracking) efforts, see: www.epa.gov/newsreleases/epa-appoints-diverse-board-experts-help-develop-national-electronic-system-track. For an overview of e-waste issues, see: Cleaning up e-waste, see: www.epa.gov/international-cooperation/cleaning-electronic-waste-e-waste.

Hazardous Waste Generator Improvements Rule

In major RCRA news, the EPA Administrator signed the final Hazardous Waste Generator Improvements Rule on October 28, 2016. The Rule was published in the *Federal Register* on November 28, 2016. This final rule includes **over 60 changes** to the hazardous waste generator regulations that clarify existing requirements, increase flexibility, and improve environmental protection. These changes also reorganize the regulations to make them easier to follow and make certain technical corrections.[23] Two key provisions where EPA is finalizing flexibility are:

1. Allowing a hazardous waste generator to avoid the increased burden of a higher generator status when generating episodic waste, provided the episodic waste is properly managed; and
2. Allowing a very small quantity generator (VSQG) (note: new term) to send its hazardous waste to a large quantity generator under control of the same person.

In addition, the rule enhances the safety of facilities, employees, and the general public by improving hazardous waste risk communication and ensuring that emergency management requirements meet today's needs. Further, the EPA is finalizing a number of clarifications without increasing burden including a reorganization of the hazardous waste generator regulations so that all of the generator regulations are in one place.[24] For a concise overview of the changes, see: Fact Sheet About the Hazardous Waste Generator Improvements Final Rule at: www.epa.gov/hwgenerators/fact-sheet-about-hazardous-waste-generator-improvements-final-rule.

Energy Star Portfolio Manager – Waste Tracking

In August, the EPA unveiled a waste and materials tracking feature in its Energy Star Portfolio Manager, which is a free benchmarking and tracking tool for commercial building owners and managers. Reducing waste and reusing materials more productively through sustainable materials management over their entire lifecycles conserves resources, helps communities remain economically competitive and supports a healthy environment. Owners and managers using Portfolio Manager will now be able to benchmark 29 types of waste across four different management metrics alongside their existing sustainability management indicators. Types of waste include building materials, glass, paper, plastics, and trash.
Currently, U.S. commercial buildings and manufacturing activities are responsible for as much as 45 percent of the 150 million tons of waste in the United States that ends up in incinerators or landfills each year.[25] To learn more or register for a free webinar on the new waste tracking feature: www.energystar.gov/trackwaste

TSCA REFORM

The EPA is taking action to ensure that the Frank R. Lautenberg Chemical Safety for the 21st Century Act signed this June, delivers on the promise of better protecting the environment and public health. The bipartisan bill to reform the Toxic Substances Control Act (TSCA) outlined a number of responsibilities for the EPA must be complete within a tight timeframe.[26] The milestones accomplished by the agency include:

•A plan released in June that outlines activities for the first year of implementing the new law;
•The first determinations completed on seven premanufacture notices under TSCA in July, 2016. The new law requires the agency to make affirmative determinations on new chemical substances before they can enter the marketplace. Additional determinations will be released as they are completed;
•A series of public meetings held in August to obtain feedback from stakeholders on the processes that will be used to establish fees and prioritize and evaluate chemicals;
•A list of five mercury compounds released on August 26th, that will be prohibited from export as of January 1, 2020. This action will prevent the ability to convert these compounds to elemental mercury after export from the U.S.[27]

Additionally, the agency is establishing the Science Advisory Committee on Chemicals (SACC) to provide independent advice and expert consultation on scientific and technical aspects on risk evaluations, methodologies, and pollution prevention measures or approaches.[28]

PBT Chemicals

In October 2016, EPA took steps to reduce exposure to certain persistent, bioaccumulative, and toxic (PBT) chemicals. The five chemicals to receive expedited action are:

- Decabromodiphenyl ethers (DecaBDE), used as a flame retardant in textiles, plastics and polyurethane foam;
- Hexachlorobutadiene (HCBD), used in the manufacture of rubber compounds and lubricants and as a solvent;
- Pentachlorothio-phenol (PCTP), used as an agent to make rubber more pliable in industrial uses;

- Tris (4-isopropylphenyl) phosphate, used as a flame retardant in consumer products and other industrial uses; and
- 2,4,6-Tris(tert-butyl)phenol, used as a fuel, oil, gasoline or lubricant additive.

The statutory deadline for the EPA to propose action is June 22, 2019. The new law gave manufacturers an opportunity to request that the EPA conduct risk evaluations for the PBT chemicals on the EPA's 2014 Work Plan, as an alternative to expedited action. Requests for risk evaluations were made for two chemicals that can be used in fragrance mixtures. For the remaining PBT chemicals, the EPA must move ahead to take expedited action to reduce exposure to those chemicals to the extent practicable. After the EPA finishes identifying where these chemicals are used and how people are exposed to them, the Agency will move directly to propose limitations on their use.[29]

The First 10 chemicals for review

In late November, the EPA announced the first 10 chemicals it will evaluate for potential risks to human health and the environment under TSCA. Under the new law, the EPA has the authority to require safety reviews of all chemicals in the marketplace. These chemicals were drawn from EPA's 2014 TSCA Work Plan, which includes a selection of 90 chemicals based on their potential for high hazard and exposure as well as other considerations. The EPA is required to complete risk evaluations for these chemicals within three years of publication of the notice in the Federal Register. If it is determined that a chemical presents an unreasonable risk to humans and the environment, the EPA must mitigate that risk within two years.[30] The first 10 chemicals includes **TCE**, a common degreaser found at thousands of contaminated sites, **asbestos**, which was once heavily used in building materials, and **tetrachloroethylene** (aka perchloroethylene, PCE or PERC), used primarily in dry cleaning and degreasing metals.[31] For the full list of chemicals and more about EPA's role under the newly amended law, see: www.epa.gov/assessing-and-managing-chemicals-under-tsca/evaluating-risk-existing-chemicals-under-tsca. See also, www.epa.gov/assessing-and-managing-chemicals-under-tsca/frank-r-lautenberg-chemical-safety-21st-century-act.

For more on the TSCA Reforms, see the TSCA Panel's presentation materials from ELS's January 2017 Annual Meeting, available on ELS's website.

AIR QUALITY

Proposed Rule to Remove Title V Emergency Affirmative Defense Provisions from State and Federal Operating Permit Programs

Consistent with other recent EPA actions involving affirmative defenses, the EPA is proposing to remove the affirmative defense provisions for emergencies found in its state and federal operating permit regulations that implement title V of the Clean Air Act (CAA), 40 CFR §§70.6(g) and 71.6(g).[32] These provisions "establish an affirmative defense that sources can assert in civil enforcement cases when noncompliance with certain emission limitations in operating permits occurs because of qualifying 'emergency' circumstances."[33] The EPA is proposing to remove

these provisions, which have always been discretionary and not required elements of state operating permit programs, "because they are inconsistent with the enforcement structure of the CAA and recent court decisions from the U.S. Court of Appeals for the D.C. Circuit."[34] The EPA took comment on implementation consequences, for permitting authorities, on the proposed removal of the emergency affirmative defense provisions.[35]

Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration (CISWI) Units

The EPA issued its Final Rule and Notice of Final Action on Reconsideration on aspects of "Standards of Performance for New Stationary Sources and Emissions Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units" for which it had granted reconsideration on January 21, 2015.[36] The EPA finalized proposed actions on the definition of "continuous emission monitoring system (CEMS) data during startup and shutdown periods;" the particulate matter limit for the waste-burning kiln subcategory; the fuel variability factor for coal-burning energy recovery units; and the definition of "kiln."[37] This action also finalized the EPA's denial of the "requests for reconsideration of all other issues raised in the petitions for reconsideration" of the 2013 CISWI rule.[38]

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

EPA finalized amendments to the standards of performance for stationary compression ignition (CI) internal combustion engines "to allow manufacturers to design the engines so that operators can temporarily override performance inducements related to the emission control system for stationary CI internal combustion engines."[39] The amendments "apply to engines operating during emergency situations where the operation of the engine or equipment is needed to protect human life, and to require compliance with Tier 1 emission standards during such emergencies."[40] The rule also amends the standards of performance for certain stationary CI internal combustion engines located in remote areas of Alaska.[41]

Amendment to NESHAP for Petroleum Refinery Sector

In response to new information submitted after these regulatory requirements were promulgated, this final rule amends, in three respects, the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Petroleum Refineries.[42] "First, this action adjusts the compliance date for regulatory requirements that apply at maintenance vents during periods of startup, shutdown, maintenance or inspection for sources constructed or reconstructed on or before June 30, 2014. Second, this action amends the compliance dates for the regulatory requirements that apply during startup, shutdown, or hot standby for fluid catalytic cracking units and startup and shutdown for sulfur recovery units constructed or reconstructed on or before June 30, 2014."[43] This action also finalizes technical corrections and clarifications to the NESHAP and the New Source Performance Standards (NSPS) for Petroleum Refineries.[44]

Proposed Revisions to the Petition Provisions of the Title V Permitting Program

On August 15, 2016, the EPA proposed regulatory revisions to "streamline and clarify processes related to submission and review of title V petitions."[45] The proposed regulations "provide direction as to how petitions should be submitted to the agency,[46]" "describe the expected format and minimum required content for title V petitions,"[47] and clarify that "permitting authorities are

required to respond to significant comments received during the public comment period for draft title V permits, and to provide that response with the proposed title V permit to the EPA for the agency's 45-day review period."[48] In addition to the regulatory changes, the preamble provides guidance "in the form of 'recommended practices' for various stakeholders to help ensure title V permits have complete administrative records and comport with the requirements of the CAA."[49] The notice also repeats information, previously discussed in specific title V orders, on the EPA's interpretation of certain CAA title V provisions and implementing regulations regarding the steps following an EPA objection in response to a title V petition.[50]

SIP Requirements for $PM_{2.5}$ NAAQS

On July 29, 2016 the EPA finalized requirements that state, local and tribal air agencies would have to meet as they implement the current and future national ambient air quality standards (NAAQS) for fine particulate matter ($PM_{2.5}$).[51] This rule "interprets the statutory requirements that apply to $PM_{2.5}$ NAAQS nonattainment areas under subparts 1 and 4" of the nonattainment provisions of the CAA.[52] These "requirements govern attainment plans and nonattainment new source review (NNSR) permitting programs."[53] The rule provides details on meeting the statutory SIP requirements that apply to areas designated nonattainment for any $PM_{2.5}$ NAAQS including, among other things, "[g]eneral requirements for attainment plan due dates and attainment dates; emissions inventories; attainment demonstrations; provisions for demonstrating reasonable further progress; quantitative milestones; contingency measures; and NNSR permitting programs."[54] This rule also clarifies the specific attainment planning requirements that apply to $PM_{2.5}$ NAAQS nonattainment areas based on their classification (either Moderate or Serious), and the process for reclassifying Moderate areas to Serious.[55]

The rule responds in part to a 2013 remand, by U.S. Court of Appeals for the District of Columbia Circuit, of two rules the EPA promulgated to clarify the statutory requirements for states to implement the 1997 $PM_{2.5}$ NAAQS: the 2007 $PM_{2.5}$ Implementation Rule and the 2008 $PM_{2.5}$ NSR Rule.[56] These rules "required that $PM_{2.5}$ nonattainment areas meet the general nonattainment planning requirements under 'subpart 1' of the nonattainment area provisions of the CAA." [57] The D.C. Circuit found that $PM_{2.5}$ nonattainment areas "are subject to both the general nonattainment planning provisions of subpart 1, and the nonattainment planning requirements specific to PM10 nonattainment areas under subpart 4 of Title I, Part D of the CAA (because PM2.5 is a subset of PM10)."[58] The court remanded the 2007 $PM_{2.5}$ Implementation Rule and the 2008 $PM_{2.5}$ NSR Rule, which both applied to the 1997 $PM_{2.5}$ NAAQS, to the EPA to be re-promulgated in accordance with subpart 4 requirements.[59]

Reconsideration of Final Air Toxics Standards for Industrial, Commercial, and Institutional Area Source Boilers

The EPA announced final decisions on issues for which reconsideration was granted for the EPA's 2013 final amendments to its standards limiting emissions of hazardous air pollutants (HAPs) from industrial, commercial, and institutional area source boilers.[60] Consistent with the February 2013 final rule, the EPA is retaining the subcategory and separate requirements for limited-use boilers.[61] And, consistent with the alternatives for which comment was solicited in the January 2015 proposal, the EPA is amending three reconsidered provisions as follows: an

alternative particulate matter (PM) standard for new oil-fired boilers that combust ultra-low

-sulfur liquid fuel in place of the alternative PM standard for new oil-fired boilers that combust

low sulfur oil; a provision that requires further performance testing for PM every 5 years for certain boilers based on their initial compliance test in place of the provision eliminating further performance testing for such boilers; and a provision that requires further fuel sampling for

mercury every 12 months for certain coal-fired boilers based on their initial compliance

demonstration in place of the provision eliminating further fuel sampling for mercury for such boilers.[62] Based on comments received, the EPA is making minor changes to the proposed definitions of startup and shutdown.[63] This action also addresses a limited number of technical corrections and clarifications, including removal of the affirmative defense for malfunction in light of a court decision on the issue.[64] This action, which addresses continuous compliance requirements applicable in the future, "does not change the coverage of the final rule, nor does it substantially affect the estimated emission reductions, costs or benefits of the rule, or change the compliance deadlines of March 21, 2014, for existing sources and upon startup for new sources."[65]

An area source facility has the potential to emit less than 10 tons per year of any single air toxic or less than 25 tons per year of any combination of air toxics.[66] There are approximately 1.3 million boilers located at areas source facilities that run on natural gas; they are not covered by the final standards or these adjustments.[67] The area source standards cover approximately 183,000 boilers, over 99% of which need only to conduct periodic tune-ups, and some of these also needed to

perform a one-time energy assessment.[68] Approximately 600 coal-burning units, which are less

than 1% of the boilers covered by the area source standards and represent the largest of these sources, are required to meet emission limits.[69]

Final Rule General Permits and Permits by Rule for the Federal Minor NSR Program in Indian Country

Pursuant to the Federal Minor New Source Review (NSR) Program in Indian Country the EPA finalized general Permits, for use in Indian country, for new or modified minor sources in six source categories: concrete batch plants; boilers and emergency engines; stationary spark ignition

engines; stationary compression ignition engines; graphic arts and printing operations; and sawmill facilities.[70]

Revisions to Public Notice Requirements for Clean Air Act Permitting Programs
On October 5, 2016, the EPA finalized revisions to the public notice provisions of the Clean Air Act, New Source Review, title V, and Outer Continental Shelf (OCS) permit programs and corresponding onshore area determinations for implementation of the OCS air quality regulations.[71] The rule removes the mandatory requirement for a permitting authority to provide public notice of a draft permit, and certain other program actions, through publication in a newspaper and instead provides for electronic noticing (e-notice) of these actions; e-notice must include electronic access (e-access) to the draft permit.[72] The rule requires e-notice for EPA Actions, and actions by permitting authorities implementing the federal permitting rules, and allows for e-notice as an option for actions by permitting authorities implementing EPA-approved programs.[73] The rule does not preclude supplemental notice by other means.[74]

CSAPR Update
On September 7, 2016, the EPA finalized an update to the Cross-State Air Pollution Rule (CSAPR).[75] The CSAPR Update addresses the interstate transport of ozone pollution, caused by emissions of nitrogen oxide (NO_X), in the eastern United States during the summertime ozone season, and seeks to help downwind states meet and maintain the 2008 ozone NAAQS.[76] In the CSAPR Update, the EPA finalized Federal Implementation Plans (FIPs) to address air quality impacts of the interstate transport of ozone air pollution in the eastern United States.[77] The CSAPR Update "identifies cuts in NO_X emissions in 22 states that contribute significantly to downwind ozone air quality problems and can be achieved using already installed, proven and cost-effective control technologies and other readily available approaches at affected sources."[78] The CSAPR Update also "responds to the July 2015 decision of the Court of Appeals for the D.C. Circuit by addressing the court's concerns regarding ozone season NOx emissions budgets for 11 states."[79]

Proposed Electronic Reporting Requirements for Mercury and Air Toxics Standards
On September 29, 2016, the EPA proposed to amend the electronic reporting requirements for the National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units (also known as the Mercury and Air Toxics Standards (MATS)).[80] The proposal would "revise and streamline the electronic data reporting requirements of MATS" and "increase data transparency."[81]

Rescission of Preconstruction Permits Issued Under the Clean Air Act
The EPA issued a final rule amending the federal Prevention of Significant Deterioration (PSD) regulations to remove a date restriction from the Permit Rescission provision.[82] The rule does not otherwise alter the criteria under which a new source review (NSR) permit may be rescinded.[83] The rule clarifies that a rescission of a permit is not automatic and corrects an outdated cross-reference to another part of the PSD regulations.[84] The rule also adds a corresponding Permit Rescission provision to the federal regulations that apply to major sources in nonattainment areas of Indian country.[85]

Proposed Implementation of the 2015 Ozone NAAQS: Nonattainment Area Classifications and SIP Requirements

On November 2, 2016, the EPA proposed nonattainment area classification thresholds and implementation requirements for the 2015 ozone NAAQS.[86] These requirements would apply to state, local and tribal air agencies implementing the 2015 ozone NAAQS.[87] This proposed action largely retains and updates the implementing regulations promulgated for the 2008 ozone NAAQS.[88]

Proposed Consent Decree in Citizen Suit Regarding Ozone Transport Region

The EPA published notice of a proposed consent decree addressing a complaint filed by the Secretary of the North Carolina Department of Environmental Quality, alleging that the EPA failed to perform duties mandated by the CAA by failing to take action to approve or disapprove a December 9, 2013 petition submitted by several states in the Ozone Transport Region (OTR) requesting the EPA to expand the OTR to include North Carolina and several other states.[89] Under the terms of the proposed Consent Decree, the EPA "must sign a notice for public comment that proposes certain actions regarding the December 9, 2013 Petition as to the State of North Carolina, no later than January 18, 2017" and must sign a notice of final action regarding the petition as to North Carolina no later than October 27, 2017.[90]

CLIMATE CHANGE

EPA Releases Climate Change Indicators Report; Records Existing Climate Change Impacts

On October 2, 2016, EPA released the 2016 edition of its *Climate Change Indicators* report, which demonstrates that "temperatures are rising, snow and rainfall patterns are shifting, and more extreme climate events – like heavy rainstorms and record high temperatures – are already happening."[91] With compelling and clear evidence of long-term changes to our climate, the report highlights impacts on the environment and human health both in the United States and around the world.[92] The report features 37 climate indicators, including "U.S. and global temperatures, ocean acidity, sea level, river flooding, droughts and wildfires."[93] Upon release of the report, Acting Assistant Administrator for EPA's Office of Air and Radiation, Janet McCabe, stated that "with each new year of data, the signs of climate change are stronger and more compelling."[94]

The United States Signs Historic Kigali Amendment to Montreal Protocol to Phase Out High Global Warming Pollutants

On October 15, 2016, the United States and 196 other Nations agreed to phase down emissions of hydrofluorocarbons (HFCs) which have a greenhouse gas potential of hundreds to thousands times more than Carbon Dioxide.[95] The agreement is referred to as the Kigali Amendment to the Montreal Protocol under the Vienna Convention for the Protection of the Ozone Layer.[96] HFC emissions are increasing by ten to fifteen percent per year. Given their high global warming potential, the phase-down has the potential to reduce climate change warming by as much as .5 degrees Celsius by the end of the century.[97]

EPA Administrator Gina McCarthy stated: "As head of the U.S. delegation to the Meeting of the Parties to the Montreal Protocol, I met with leaders from around the world who share a commitment to protecting the planet and scaling down these harmful gases. Together, joined by Secretary of State John Kerry, we agreed to take action and get the job done. And that's exactly what we did."[98]

Paris Agreement Enters Into Force on November 4, 2016

The Kigali Amendment will complement the December 2015 Paris agreement which entered into force on November 4, 2016, thirty days after crossing the threshold of the requisite number of nations and global emissions covered under the agreement, and a mere six months after the the signing ceremony on Earth Day 2016. Secretary of State John Kerry stated that "the rapid entry into force timeline underscores the widespread recognition of the urgency at hand. It is a testament to the continued determination of states large and small, rich and poor, to act on the moral, social, and economic imperative to address the dangerous impacts of climate change."[99] In President Obama's remarks on the historic achievement, he stated that "the world has officially crossed the threshold for the Paris Agreement to take effect. Today, the world meets the moment. And if we follow through on the commitments that this agreement embodies, history may well judge it as a turning point for our planet."[100]

EPA Issues Two Rules to Reduce HFCs, Consistent with the Kigali Amendment

The EPA was already doing its part to reduce HFCs here at home before the Kigali Amendment. In early October, EPA finalized two rules that will reduce the use and emissions of HFCs. One rule updates existing air-conditioning and refrigeration service practices for ozone depleting refrigerants and extends those requirements to HFCs, which are used as a substitute for the ozone-depleting substances.[101] Most of the global and U.S. use of HFCs is in the refrigeration and air conditioning sector, and so the rule will have significant climate change benefits by preventing annual emissions of 3.6 MMTCO2 equivalent from reduction of HFCs.[102] EPA articulated two goals for the rule: (1) promote the proper handling and use of ozone depleting substances and HFCs to reduce emissions, and (2) improve the clarity and effectiveness of the existing rule.

The other final rule, published on October 11, 2016, is a "determination of acceptability" (Determination 32),[103] which expands the list of acceptable substitutes under EPA's Significant New Alternatives Policy (SNAP) pursuant to Section 612 of the Clean Air Act.[104] Section 612 requires EPA to promulgate rules making it unlawful to replace ozone depleting substances with any substitute that presents adverse effects to human health or the environment where there is an alternative that reduces overall risk to human health and the environment and is currently or potentially available.[105] The EPA's SNAP program evaluates substitutes for ozone depleting substances in a comparative risk framework.[106] In the notice, EPA approved a number of substitutes that are acceptable. The substitutes are blends that include HFCs, however, the global warming potentials of the blends are lower than or comparable to existing HFCs already in use as substitutes to ozone depleting substances.[107] The new substitutes are for refrigeration, air conditioning, fire suppression, and explosion protection.[108]

EPA and the U.S. Department of Transportation (DOT) Finalize Greenhouse Gas/Fuel Economy Standards for Heavy-Duty and Medium Duty Vehicles

On August 18, 2016, EPA and DOT's National Highway Traffic Safety Administration (NHTSA) jointly finalized standards for medium-duty and heavy-duty vehicles.[109] The final rule represents phase two for this category of vehicles, which President Obama called for in his 2013 Climate Action Plan. The final rule is consistent with the United States' goal of achieving its non-binding intended nationally determined contribution target of 26-28 percent below 2005 levels in 2025, which was submitted in advance of the historic Paris Agreement.[110] The Phase 2 final rule builds on the Phase 1 rule, which began covering new trucks and heavy vehicles in model year 2014, and includes new technology-advancing standards that will phase in through 2027.[111] Phase 2 will

achieve fuel savings as high as 25 percent above Phase 1[112] and will lower CO2 emissions by approximately 1.1 billion metric tons and provide $230 billion in net health and climate benefits, outweighing costs by about an 8-to-1 ratio.[113]
For more information, see https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-commercial-trucks.

EPA issues Proposed Determination for Midterm Evaluation of Light Duty Vehicle Standards

On November 30, 2016, EPA issued its proposed determination that the light duty vehicle emissions standards for model years 2022-2025 remain appropriate and that no rulemaking is necessary to change the standards.[114] When EPA issued the Phase 2 light-duty rule for model years 2017-2025, the Agency included a requirement that it conduct a midterm evaluation of the greenhouse gas (GHG) standards for 2022-2025.[115] The November 30 proposal serves to fulfill that requirement. It was preceded by the July 2016 release of a Draft Technical Assessment, issued jointly by EPA, NHTSA, and the California Air Resources Board.[116] Comments on the proposed determination are due on or before December 30, 2016 and the final determination is to be made no later than April 1, 2018.[117] EPA's proposed determination concluded that automakers have a wide variety of technology pathways available to meet the standards and they can do so "at slightly lower per-vehicle costs than predicted in the TAR[Technical Assessment Report], and lower costs than predicted in the 2012 rulemaking that established the standards."[118]

The proposed determination document is available at: Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (PDF). The technical support document is available at Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation: Technical Support Document (PDF).

EPA Issues Endangerment Finding for Aircraft Greenhouse Gas Emissions
On August 15, 2016, the EPA published its final determination that greenhouse gases endanger the public health and welfare within the meaning of Clean Air Act Section 231(a)(2)(A), 42, U.S.C. 7571(a)(2)(A), on aircraft emissions, and that the six well-mixed greenhouse gas emissions from certain classes of aircraft engines contribute to air pollution that endangers the public health and welfare.[119] In issuing the finding, EPA was informed by and placed considerable weight on the "extensive scientific and technical evidence in the record supporting the 2009 Endangerment and Cause or Contribute Findings under CAA Section 202(a)."[120] EPA indicated that its Finding also reflects the science assessments since 2009 which "strengthen and further support the judgment that GHGs in the atmosphere may reasonably be anticipated to endanger the public health and welfare of current and future generations."[121]
On a parallel track, the United states is involved in an international process with the International Civil Aviation Organization (ICAO), which is expected to formally adopt a final CO2 emissions standard for aircraft in March 2017. Member states of ICAO will then be required to adopt standards "that are of at least equivalent stringency to those set by ICAO."[122] U.S. aircraft emissions are a significant source of GHG emissions, representing roughly 12 percent of GHG emissions from the United States transportation sector and 29 percent of global aircraft GHG emissions.[123]

EPA Issues Final Standards of Performance for Municipal Solid Waste Landfills

On August 29, 2016, EPA issued a final rule that updates the Standards of Performance for Municipal Solid Waste Landfills by creating a new subpart, 40 CFR Part 60, Subpart XXX.[124] The final rule implements Clean Air Act Section 111(b)(1)(B), 42 U.S.C. 7411(b)(1)B), which requires EPA to review and, if appropriate, revise new source performance standards at least every 8 years. Landfills that commence construction, reconstruction, or modification after July 17, 2014 are subject to the new Subpart XXX.[125]

This action will achieve additional reductions in emissions of landfill gas and its components, including methane, by lowering the emissions threshold at which a landfill must install controls. This action also incorporates new data and information received in response to the proposed rulemaking and addresses other regulatory issues including surface emissions monitoring, wellhead monitoring, and the definition of landfill gas treatment system.[126] The final rule implements President Obama's "Strategy to Reduce Methane Emissions" and is consistent with the President's 2013 Climate Action Plan.[127] Methane is a potent GHG with a global warming potential 28-36 times greater than CO2, and has been identified by the Intergovernmental Panel on Climate Change as the second leading long-lived global climate forcer. By lowering the threshold for installation of controls from 50 Mg/yr to 34 Mg/yr, substantial methane reductions will be achieved.[128]

EPA Issues Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

In addition to issuing a final rule for new, modified, or reconstructed landfills, EPA also issued, on August 29, 2016, final revised Emission Guidelines for existing landfills that accepted waste after November 8, 1987 and commenced construction, reconstruction or modification before July 17, 2014.[129] Similar to the final rule for new, modified, or reconstructed landfills, the final Emission Guidelines reduce the threshold for installation of controls at existing landfills from 50 Mg/yr to 34 Mg/yr assuming they are not closed by September 27, 2017.[130] This action is also consistent with the President's Climate Action Plan and implements the President's Strategy to Reduce methane Emissions. Although EPA had previously issued Emission Guidelines for landfills, EPA interprets Clean Air Act Section 111(d), 42 U.S.C. 7411(d), as providing discretionary authority to update the Guidelines and require states to update the standards of performance.[131] When combined with the final rule for new, modified, and reconstructed landfills, methane emissions from landfills will be reduced by an estimated 334,000 tons per year beginning in 2025, which is equivalent to 8.2 million metric tons of CO2.[132] The benefits of the two rules far outweigh the costs by a ratio of 8-to-1, with climate benefits estimated at $512 million in 2025.[133]

New EPA/DOA Food Loss and Waste Program Will Reduce Methane Emissions

In November 2016, EPA and the Department of Agriculture announced the inaugural group of U.S. Food Loss and Waste 2030 Champions.[134] The Champions are U.S. businesses and organizations that have pledged to take concrete steps to reduce food loss and waste in their operations by 50 percent by 2030. Food waste has significant implications for climate change because it results in methane emissions. Thirty-one percent of our retail and consumer food is wasted, much of it ending up in landfills which produce 20 percent of total U.S. methane emissions.[135] Fifteen Champions were announced in November including Ahold USA, Blue Apron, Bon Appétit Management Company, Campbell Soup Company, Conagra Brands,

Delhaize America, General Mills, Kellogg Company, PepsiCo, Sodexo, Unilever, Walmart, Wegman's Food Markets, Weis Markets and YUM! Brands.[136] This program builds on EPA's Food Recovery Challenge, designed for businesses, organizations and Universities, which empowers partners to, among other things, reduce methane from food waste by implementing a hierarchy based on prevention, donation, and composting and/or anaerobic digestion.[137] Entities not ready to make the 50 percent reduction pledge required of the 2030 Champions program can choose to participate in the Food Recovery Challenge.

Details on becoming a U.S. Food Loss and Waste 2030 Champion can be found at www.usda.gov/oce/foodwaste and www.epa.gov/sustainable-management-food. Additional background and contact information for the 15 inaugural Champions is available in the USDA Newsroom: http://www.usda.gov/wps/portal/usda/usdahome?contentid=2016/11/0245.xml&contentidonly=true

EPA Unveils New Web Portal to Build Resilience in Communities

EPA launched a new web portal on October 6, 2016 to support communities as they prepare for the impacts of climate change. The new on-line tool, called the Adaptation Resource Center (ARC-X), provides users with information specific to their geographic area and issues of concern.[138] ARC-X offers case studies that present strategies used by other communities with similar concerns, instructions on how to begin implementing the strategies, EPA tools to assist with the implementation, and sources of funding and technical assistance from EPA and other federal agencies.[139] The portal provides this information in the context of multiple types of climate change impacts including air quality, water management, waste management and emergency response, and public health.[140]

ARC-X can be accessed at: www.epa.gov/ARC-X

EPA Updates Climate Risk Assessment Tool for Water Utilities

In September 2016, EPA released an updated tool to build resilience at water, wastewater, and storm water utilities.[141] The tool, known as the Climate Resilience Evaluation and Awareness Tool (CREAT), helps water utilities prepare for climate change impacts. The updated version provides climate change projection data, monetized risk results, and future climate scenarios such as increased precipitation and number of days over 100 degrees Fahrenheit.[142] The tool was developed and updated "in consultation with drinking water and wastewater utilities, water sector associations, climate science and risk assessment experts, and multiple federal partners."[143] According to Joel Beauvais, Deputy Assistant Administrator for EPA's Office of Water, "water utilities operate on the front lines of climate change and face the challenges of increased drought, flooding and sea level rise. EPA is working to strengthen America's communities by providing climate preparedness tools like CREAT that local leaders can use to make smart decisions."[144]

The CREAT tool is available at: https://www.epa.gov/crwu/build-climate-resilience-your-utility.

To learn more about water sector climate readiness, visit https://www.epa.gov/crwu

WATER QUALITY

Science and Technical Support

EPA Announces Results of its Six-Year Review of Existing Drinking Water Standards
On December 20, 2016, the EPA released the pre-publication copy of the *Federal Register* notice, "National Primary Drinking Water Regulations; Announcement of the Results of EPA's Review of Existing Drinking Water Standards and Request for Public Comment and/or Information on Related Issues," which resulted from the agency's third six-year review of National Primary Drinking Water Regulations. Based on a review of 76 regulations, the EPA concluded that eight national primary drinking water standards are candidates for regulatory revision. These eight candidates are included in the Stage 1 and Stage 2 Disinfectants and Disinfection Byproducts Rules, the Surface Water Treatment Rule (SWTR), the Interim Enhanced Surface Water Treatment Rule (IESWTR) and the Long Term 1 Enhanced Surface Water Treatment Rule (LT1). The eight candidates are Chlorite, *Cryptosporidium* (under the SWTR, IESWTR and LT1), Haloacetic acids, Heterotrophic Bacteria, *Giardia lamblia*, *Legionella*, Total Trihalomethanes, and Viruses (under the SWTR).

The EPA determined that for the contaminants regulated under these rules there is new information on health effects, treatment technologies, analytical methods, occurrence and exposure, implementation and/or other factors that provide a health or technical basis to support a regulatory revision that will improve public health protection. The determination is not a regulatory decision, but initiates a process that will involve more detailed analyses of health effects, analytical and treatment feasibility, occurrence, benefits, costs and other regulatory matters relevant to deciding whether a rulemaking to revise a regulation should be initiated, and the EPA will be seeking public comment on the possibility of regulatory revisions for the eight candidates.

For more information, visit: https://www.epa.gov/dwsixyearreview/six-year-review-3-drinking-water-standards.

EPA Releases Final Report on Impacts from Hydraulic Fracturing Activities on Drinking Water
On December 13, 2016, the EPA released its scientific report on the impacts from hydraulic fracturing activities on drinking water resources, which provides states and others the scientific foundation to better protect drinking water resources in areas where hydraulic fracturing is occurring or being considered. The report, done at the request of Congress, provides scientific evidence that hydraulic fracturing activities can impact drinking water resources in the United States under some circumstances. As part of the report, the EPA identified conditions under which impacts from hydraulic fracturing activities can be more frequent or severe. The report also identifies uncertainties and data gaps. These uncertainties and data gaps limited the EPA's ability to fully assess impacts to drinking water resources both locally and nationally. The final conclusions are based upon review of over 1,200 cited scientific sources; feedback from an independent peer review conducted by the EPA's Science Advisory Board; input from engaged stakeholders; and new research conducted as part of the study.

The report is organized around activities in the hydraulic fracturing water cycle and their potential to impact drinking water resources: (1) water acquisition, (2) chemical mixing, (3) well injection, (4) wastewater collection, and (5) wastewater management and disposal or reuse, and the EPA

identified cases of impacts on drinking water at each stage in the cycle. Impacts generally occurred near hydraulically fractured oil and gas production wells and ranged in severity from temporary changes in water quality to contamination that made private drinking water wells unusable. The EPA identified conditions under which impacts from hydraulic fracturing activities can be more frequent or severe, including: (1) withdrawing water in times or areas of low water availability; (2) spills during wastewater management that result in large volumes or high concentrations of chemicals reaching groundwater resources; (3) injection into wells with leaks; (4) injection directly into groundwater resources; (4) discharge of inadequately treated hydraulic fracturing wastewater to surface water; and (5) disposal or storage of wastewater in unlined pits.

For a copy of the study, visit www.epa.gov/hfstudy.

EPA's National Lakes Assessment Finds Nutrient Pollution is Widespread in Lakes
On December 8, 2016, the EPA released the results of a national assessment showing that nutrient pollution is widespread in the nation's lakes, with 4 in 10 lakes suffering from too much nitrogen and phosphorus. Excess nutrients can cause algae blooms, lower oxygen levels, degraded habitat for fish and other life, and lower water quality for recreation. The National Lakes Assessment also found an algal toxin – microcystin – in 39 percent of lakes but below levels of concern. Low concentrations of the herbicide atrazine were found in 30 percent of lakes.

The assessment is part of a series of National Aquatic Resource Surveys designed to provide information about the condition of water resources in the U.S., and which are conducted in partnership with states and tribes to provide national-scale assessments of the nation's waters. An earlier National Lakes Assessment was conducted in 2007, but this latest study is expanded to include smaller lakes and increase the number of lakes assessed. Lake managers can use the new interactive dashboard to evaluate site-specific information and to explore population-level results. Conducted on a five-year basis, future lake surveys will help water resource managers assess broad-scale differences in the data and perform trends analysis.

For more information, visit: https://www.epa.gov/national-aquatic-resource-surveys/nla

Standards: Guidance, Regulations, and Permits

EPA Releases a New Watershed Academy Online Module on "Aquatic Resource Awareness for Real Estate Appraisers"
Earlier this fall, the EPA released a new online training module titled designed for licensed real estate appraisers and approved by the Appraisal Foundation. The goal of this course is to increase awareness of aquatic resources, including why and how they are protected under environmental laws, what signs to look for that might indicate their presence in the environment, and how they can be documented as part of an appraisal. After successful completion of this course, real estate appraisers should have a general awareness of aquatic resources and be able to accurately complete the portion of the Uniform Residential Appraisal Report form that deals with site conditions. Real Estate Appraisers will be provided an online, form-fillable Watershed Academy certificate after completion of a final exam in the course module which may be submitted to their respective state or national Appraisal Foundation for continuing education credits.

The online module is available at https://www.epa.gov/watershedacademy/aquatic-resources-awareness-course-real-estate-appraisers

EPA Issues Final Rule on Treatment of Indian Tribes in a Similar Manner as States for Purposes of Section 303(d) of the Clean Water Act

On September 16, 2016, the EPA Administrator signed the final rule to establish a regulatory process for eligible tribes to apply to the EPA for authority to establish lists of impaired waters and total maximum daily loads (TMDLs) for waters on their reservation, pursuant to section 303(d) of the Clean Water Act. In Section 518(e) of the CWA, Congress authorized EPA to treat eligible federally recognized Indian tribes in a similar manner as states for purposes of administering Section 303 and certain other provisions of the CWA, and directed the agency to promulgate regulations effectuating this authorization. In the 1990s, EPA issued regulations establishing a process for federally recognized tribes to obtain treatment in a similar manner as states (TAS) for several provisions of the CWA; 53 tribes, for example, have since obtained TAS authority to issue water quality standards under CWA section 303(c). However, prior to this rule, the EPA had not yet promulgated regulations expressly establishing a process for such tribes to obtain TAS authority to administer the water quality restoration provisions of CWA section 303(d), including issuing lists of impaired waters and developing total maximum daily loads (TMDLs) under CWA section 303(d). By establishing regulatory procedures for eligible tribes to obtain TAS status for the CWA Section 303(d) Impaired Water Listing and TMDL Program, the rule enables eligible tribes to obtain authority to identify impaired waters on their reservations and to establish TMDLs, which serve as plans for attaining and maintaining applicable water quality standards.

The rule, and supporting information, can be found at: https://www.epa.gov/tmdl/final-rule-treatment-indian-tribes-similar-manner-states-purposes-section-303d-clean-water-act

EPA Issues Final General Permit Remand Rule for Small Municipal Separate Storm Sewer Systems

On December 9, 2016, in response to a Ninth Circuit remand, the EPA issued a rule that finalized modifications to the Phase II stormwater regulations relating to the use of general permits for small municipal separate storm sewer systems (MS4s). The Court had found that the rule's permit application and approval process had failed to meet the Clean Water Act standard of ensuring that permittees reduce the discharge of pollutants from the MS4 to the maximum extent practicable, protecting water quality, and satisfying the appropriate water quality requirements of the Act. The final rule establishes a "Permitting Authority Choice Approach" for how an NPDES permitting authority can issue and administer small MS4 general permits, which allows an NPDES permitting authority to use a Comprehensive General Permit or a Two-Step General Permit.

Under a Comprehensive General Permit, the NPDES authority would include the full set of requirements necessary for meeting the MS4 permit standard in the permit, and no additional requirements are established after the general permit is issued. Under the Two-Step General Permit, after issuing the base general permit, which includes the requirements that apply to all MS4s covered by the permit, the permitting authority establishes, through a second permitting step, additional permit terms and conditions for each MS4 seeking authorization to discharge under the general permit. Unlike applications submitted under a Comprehensive General Permit,

applications submitted under a Two-Step General Permit will need to contain whatever additional information is necessary to the permitting authority to develop the additional requirements for each permittee, and satisfy its obligation to review the application for adequacy, determine if additional control requirements are needed, and provide public notice and an opportunity for the public to submit comments and to request a hearing, before authorizing the permittee to discharge under the permit.

For more information, visit: https://www.epa.gov/npdes/npdes-stormwater-final-ms4-general-permit-remand-rule.

Enforcement and Compliance

EPA Issues Administrative Compliance Order Directing New York City to Develop City-Wide Plan for Addressing Sewer Backups into Buildings

On August 31, 2016, the EPA issued an Administrative Compliance Order to New York City requiring it to develop a plan to address continued sewer backups into residents' basements and other public and private property. The order gives the city 120 days to submit a plan to the EPA for approval to work toward the elimination of unauthorized wastewater releases from sewer backups city-wide over the next seven years. The order is designed to ensure that the city prevents sewer backups through a systematic and proactive program, as other large cities have.

EPA Obtains Penalty, Injunctive Relief, and Environmental Improvements from Aqueduct Racetrack for Illegally Discharging Polluted Stormwater

On September 30, 2016, as part of a National Enforcement Initiative focusing on concentrated animal feeding operations, the EPA filed a complaint against The New York Racing Association, Inc. (NYRA) and simultaneously lodged a consent decree to resolve the allegations in the complaint. The complaint alleges that NYRA, which operates the Aqueduct Racetrack where horse racing, training, and boarding of horses occur, and where up to 450 horses are housed on site during the horse racing season, violated the Clean Water Act by discharging wastewater containing animal wash water and detergent, and feed waste, from Aqueduct Racetrack into storm sewers that discharge to Jamaica Bay, a waterbody that is impaired by high levels of ammonia, nitrogen, oil/grease, and pathogens. In 2013 and 2014 alone, NYRA generated and discharged an estimated 1.26 million gallons per year of polluted wastewater.

Under the consent decree, NYRA will redirect all wastewater to sanitary sewers for treatment at a wastewater treatment plant. The settlement includes interim and long term measures, including the designation of a responsible employee; implementation of new operation and maintenance procedures; installation of a telemetry monitoring system in the manholes that will alert employees of any dry weather flows in the storm sewers; and weekly inspections. The settlement also requires NYRA to post inspection results and compliance information on the internet, and pay $150,000 as a civil penalty. NYRA also agreed to implement a Supplemental Environmental Project (SEP) that will reduce future storm water runoff impacts by planting 62 trees at the nearby NYRA Belmont Racetrack. The trees will capture and slow the flow of storm water, increase soil permeability, prevent soil erosion, provide wildlife habitat, reduce the urban "heat island" effect, and improve air quality.

EPA Obtains Penalty, Injunctive Relief, and Environmental Improvements from New York State for Operating Prohibited Cesspools at State Parks

On December 19, 2016, the EPA, filed a complaint against the State of New York; New York State Office of Parks, Recreation and Historic Preservation ("OPRHP"); and the Palisades Interstate Park Commission ("Commission"), and simultaneously lodged a consent judgment to resolve the allegations in the complaint. The complaint alleges that the Defendants violated the Safe Drinking Water Act's ("SDWA") Underground Injection Control regulations in their continued ownership and operation of 54 Large Capacity Cesspools ("Prohibited LCCs") at various New York State parks (mostly on Long Island) for years beyond the deadline of April 5, 2005, by which time they were required to close them. The sewage waste from LCCs is high in harmful nutrients, such as nitrogen, that can contaminate drinking water and degrade surface water quality. Many of New York's public water systems rely on underground sources of drinking water, and nutrient pollution in and around surrounding Suffolk County is a longstanding problem that threatens Long Island's Sole Source Aquifer.

Under the consent judgment, Defendants will pay a $150,000 civil penalty, close the prohibited LCCs or convert them to lawful non-LCC uses by July 2019, and perform a Supplemental Environmental Project (SEP) that will reduce the nutrient pollution entering groundwater at seven of Defendants' Long Island parks through the installation of urine separation systems that divert the collected urine to a wastewater treatment facility for treatment, installation of nitrogen reducing technology for sanitary waste, construction of a wetland for sanitary waste treatment, installation of green technology site improvements for stormwater treatment, and retrofitting existing stormwater drainage facilities with a bio-retention system. The estimated cost of the injunctive relief and SEP is $17,000,000.

Any opinions expressed herein are the authors own, and do not necessarily reflect the views of the U.S. Environmental Protection Agency. This Update is based on select EPA press releases available at http://www.epa.gov/newsroom, and other public information covering approximately July 1, 2016 through December 10, 2016.

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[1] EPA Website, Superfund Financial Responsibility, https://www.epa.gov/superfund/superfund-financial-responsibility (visited on Dec. 10, 2016).

[2] SUPERFUND - Deadline arrives for new EPA bonding rules, Greenwire, Dec. 1, 2016.

[3] EPA Press Release, EPA Adds Sites to National Priorities List to Reduce Risk to Public Health and Environment, Sept. 7, 2016, at https://www.epa.gov/newsreleases/epa-adds-sites-national-priorities-list-reduce-risk-public-health-and-environment-0.

[4] EPA Press Release, EPA Adds Wappinger Creek in Dutchess County, N.Y. to the Federal Superfund List Sediment Contaminated with Mercury, Polycyclic Aromatic Hydrocarbons, Sept. 7, 2016, https://www.epa.gov/newsreleases/epa-adds-wappinger-creek-dutchess-county-ny-federal-superfund-list-sediment.

[5] EPA Press Release, Corrected: EPA Proposes to Add Saint-Gobain Performance Plastics Site in Hoosick Falls, N.Y. to the Federal Superfund List, Sept. 7, 2016, https://www.epa.gov/newsreleases/corrected-epa-proposes-add-saint-gobain-performance-plastics-site-hoosick-falls-ny.

[6] Id.

[7] Id.

[8] EPA Press Release, EPA Urges the Public to Comment on Proposal to Remove Jackson Steel Property in Mineola, N.Y. from Superfund List, Aug. 11, 2016, https://www.epa.gov/newsreleases/epa-urges-public-comment-proposal-remove-jackson-steel-property-mineola-ny-superfund.

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